



FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
2040.0440000APPLICATION NO.
10/684,587FIRST NAMED INVENTOR
Jun ShenFILING DATE
October 15, 2003ART UNIT
2832

Page 1 of 9

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
30	AA1	4,065,677	12/27/1977	Micheron et al.			12/23/1975
	AB1	4,461,968	07/24/1984	Kolm et al.			01/11/1982
	AC1	4,496,211	01/29/1985	Daniel			12/05/1980
	AD1	4,570,139	02/11/1986	Kroll			12/14/1984
	AE1	5,016,978	05/21/1991	Fargette et al.			05/21/1991
	AF1	5,048,912	09/17/1991	Kunikane et al.			03/09/1989
	AG1	5,398,011	03/14/1995	Kimura et al.			05/17/1993
	AH1	5,472,539	12/05/1995	Saia et al.			06/06/1994
	AI1	5,475,353	12/12/1995	Roshen et al.			09/30/1994
	AJ1	5,557,132	09/17/1996	Takahashi			12/06/1994
30	AK1	5,629,918	05/13/1997	Ho et al.			01/20/1995

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
30	AL1	DE 10031569 A1	02/01/2001	Germany			Yes No
	AM1	DE 19820821 C1	12/16/1999	Germany			Yes No
	AN1	EP 0452012 A2 & A3	10/16/1991	Europe			Yes No
	AO1	EP 0685864 A1	12/06/1995	Europe			Yes No
30	AP1	EP 0709911 A2 & A3	5/1/1996	Europe			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

30	AR	1	Richard P. Feymann, "There's Plenty of Room at the Bottom", December 29, 1959, pp.1-12, Internet Source: http://222.zyvex.com/nanotech/feynman.html .
30	AS	1	E. Fullin, J. Gobet, H.A.C. Tilmans, and J. Bergvist, "A New Basic Technology for Magnetic Micro-Actuators", pp. 143-147.
30	AT	1	Jack W. Judy and Richard S. Muller "Magnetically Actuated, Addressable Microstructures", September 1997, Journal of Microelectromechanical Systems, Vol. 6, No. 3, September 1997, pp.249-255.

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01/12/06

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30	AA2	5,696,619	12/9/1997	Knipe et al.			02/27/1995
	AB2	5,784,190	07/21/1998	Worley			04/27/1995
	AC2	5,818,316	10/06/1998	Shen et al.			07/15/1997
	AD2	5,838,847	11/17/1998	Pan et al.			10/23/1997
	AE2	5,847,631	12/8/1998	Taylor et al.			09/30/1996
	AF2	5,898,515	04/27/1999	Furlani et al.			11/21/1996
	AG2	5,945,898	08/31/1999	Judy et al.			05/31/1996
	AH2	5,982,554	11/09/1999	Goldstein et al.			12/31/1997
	AI2	6,016,092	01/18/2000	Qiu et al.			08/10/1998
	AJ2	6,016,095	01/18/2000	Herbert			07/06/1998
30	AK2	6,028,689	02/22/2000	Michalick et al.			01/24/1997

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
30	AL2	EP 0780858 A1	06/25/1997	Europe			Yes No
	AM2	EP 0869519 A1	10/07/1998	Europe			Yes No
	AN2	EP 0887879 A1	06/19/1998	Europe			Yes No
	AO2	EP 887879 A1	12/30/1998	Europe			Yes No
30	AP2	FR 2572546 A1	5/2/1986	France			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

30	AR	2	Ezekiel JJ Kruglick and Kristofer SJ Pister, "Project Overview: Micro-Relays", Tech. Digital Solid-State Sensor and Actuator Workshop, 1998, Hilton Head 98 and 19 th International Conference on Electric Contact Phenomena, Nuremberg, Germany, Sept. 1998 (Downloaded from Internet Source: http://www-bsac.eecs.berkeley.edu/Kruglick/relays/relays.html , on July 12, 1999) 2 pgs.
30	AS	2	Ezekiel J.J. Kruglick and Kristofer S.J. Pister, "Bistable MEMS Relays and Contact Characterization", Tech. Digital Solid-State Sensor and Actuator Workshop, Hilton Head, 1988 and 19 th International Conference on Electric Contact Phenomena, Nuremberg, Germany, Sept. 1998, 5 pgs.
30	AT	2	Laure K. Lagorce and Oliver Brand, "Magnetic Microactuators Based on Polymer Magnets", March 1999, IEEE Journal of Microelectromechanical Systems, IEEE, Vol. 8., No. 1., March 1999, 8 pages.

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BR	AA3	6,078,016	06/20/2000	Yoshikawa et al.			
	AB3	6,084,281	07/04/2000	Fullin et al.			
	AC3	6,094,293	07/25/2000	Yokoyama et al.			
	AD3	6,115,231	09/05/2000	Shirakawa			
	AE3	6,124,650	09/26/2000	Bishop et al.			
	AF3	6,143,997	11/07/2000	Feng et al.			
	AG3	6,160,230	12/12/2000	McMillen et al.			
BR	AH3	6,094,116	07/25/2000	Tai et al.			
	AI3						
	AJ3						
	AK3						

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
BR	AL3	JP 4-275519	10/1/1992	Japan			Yes No
	AM3	JP 6-251684	9/9/1994	Japan			Yes No
	AN3	JP 54-161952	12/22/1979	Japan			Yes No
	AO3	WO 97/39468	10/23/1997	PCT			Yes No
BR	AP3	WO 98/34269	8/6/1998	PCT			Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

BR	AR	3	"P10D Electricity & Magnetism Lecture 14", Internet Source: http://scitec.uwhicill.edu.bb/cmp/online/P10D/Lecture14/lect14.htm , January 3, 2000, pp.1-5.
BR	AS	3	"Ultraminiature Magnetic Latching to 5-relays SPDT DC TO C Band", Series RF 341, product information from Teledyne Relays, 1998.
BR	AT	3	M. Ruan et al., "Latching Microelectromagnetic Relays", Sensors and Actuators A 91 (July 15, 2001), Copyright 2001 Elsevier Science B.V., pages 346-350.

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA4						
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	AJ4						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL4	WO 9927548	6/3/1999	PCT			Yes No
	AM4						Yes No
	AN4						Yes No
	AO4						Yes No
	AP4						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

DR	AR	4	Xi-Qing Sun, K.R. Farmer, W.N. Carr, "A Bistable Microrelay Based on Two-Segment Multimorph Cantilever Actuators", 11 th Annual Workshop on Micro Electrical Mechanical Systems, Heidelberg, Germany, IEEE, January 25-29, 1998, pp. 154-159.
30	AS	4	William P. Taylor and Mark G. Allen, "Integrated Magnetic Microrelays: Normally Open, Normally Closed, and Multi-Pole Devices", 1997 International Conference on Solid-State Sensors and Actuators, IEEE, June 16-19, 1997, pp. 1149-1152.
30	AT	4	William P. Taylor, Oliver Brand, and Mark G. Allen. "Fully Integrated Magnetically Actuated Micromachined Relays", Journal of Microelectromechanical Systems, IEEE, Vol. 7, No. 2, June 1998, pp.181-191.

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01/02/04

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA5						
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL5						Yes No
	AM5						Yes No
	AN5						Yes No
	AO5						Yes No
	AP5						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

29	AR	5	Tilmans, et al., "A Fully-Packaged Electromagnetic Microrelay", Proc. MEMS '99, Orlando, FL, January 17-21, 1999, copyright IEEE 1999, pp. 25-30.
30	AS	5	William Trimmer, "The Scaling of Micromechanical Devices", Internet Source: http://home.earthlink.net/~trimmerw/mems/scale.html on January 3, 2000 (adapted from article "Microrobots and Micromechanical Systems by W.S.N. Trimmer, Sensors and Actuators, Vol. 19, No. 3, September 1989, pp. 267-287, and other sources)
31	AT	5	John A. Wright and Yu-Chong Tai, "Micro-Miniature Electromagnetic Switches Fabricated Using MEMS Technology", Proceedings: 46 th Annual International Relay Conference: NARM '98, April 1998, pages 13-1 to 13-4.

EXAMINER <i>Bernad R...</i>	DATE CONSIDERED 9/14/06
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA6						
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL6						Yes No
	AM6						Yes No
	AN6						Yes No
	AO6						Yes No
	AP6						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

30	AR	6	John A. Wright, Yu-Chong Tai and Gerald Lilienthal, "A Magnetostatic MEMS Switch for DC Brushless Motor Commutation", Proceedings Solid State Sensor and Actuator Workshop, Hilton Head, 1998, June 1998, pages 304-307.				
31	AS	6	John A. Wright, Yu-Chong Tai, and Shih-Chia Chang, "A Large-Force, Fully-Integrated MEMS Magnetic Actuator", Transducers '97, 1997 International Conference on Solid State Sensors and Actuators, Chicago, June 16-19, 1997.				
32	AT	6	Ann, Chong H. & Allen, Mark G., "A Fully Integrated Micromagnetic Actuator With A Multilevel Meander Magnetic Core, 1992 IEEE, Solid-State Sensor and Actuator Workshop, Technical Digest, Hilton Head Island, South Carolina, June 22-25, 1992, Technical Digest, pp. 14-17.				

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9/12/03

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	AA7						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL7						Yes No
	AM7						Yes No
	AN7						Yes No
	AO7						Yes No
	AP7						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

39	AR	7	English-Language Abstract of DE 10031569, published February 1, 2001, 1 page.
38	AS	7	English-Language Abstract of DE 19820821, published December 16, 1999, 1 page.
38	AT	7	English-Language Abstract of EP 0780858, published June 25, 1997, 1 page.

EXAMINER <i>B. R.</i>	DATE CONSIDERED <i>11/1/06</i>
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	AA8						
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL8						Yes No
	AM8						Yes No
	AN8						Yes No
	AO8						Yes No
	AP8						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

30	AR	8	English-Language Abstract of EP 0869519, published October 7, 1998, 1 page.
30	AS	8	English-Language Abstract of FR 2572546, published May 2, 1986, 1 page.
30	AT	8	English-Language Abstract of JP 4275519, published October 1, 1992, 1 page.

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	AA9						
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	AL9						Yes
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	AN9						Yes
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	AO9						Yes
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	AP9						Yes
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

3R	AR	9	English-Language Abstract of EP 0869519, published October 7, 1998, 1 page.
3R	AS	9	English-Language Abstract of FR 2572546, published May 2, 1986, 1 page.
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